Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-10 (canceled).

11 (currently amended): A method of fusion of first and second digital radiographic images of an object comprising:

scanning the object to provide first digital radiographic image;

providing ~~provided~~ the second digital radiographic image by magnetic resonance imaging (MRI);

selecting in the scanner image a CT interval of a gray level wherein each pixel of the scanner image having the gray level lying within upper and lower limits of the CT interval is replaced by a pixel obtained by digital processing of the pixel of the same coordinates as the MRI image having corresponding MRI image gray levels; and

providing a final image corresponding to the scanner image in which the pixels of gray levels lying within the CT interval are thus modified.

12 (previously presented): The method according to claim 11, wherein a two-dimensional recentering of both MRI and scanner images is carried out by means of at least one rotation and/or translation operation, so that a pixel of the scanner image of coordinates (x,y) and a pixel of the MRI image of the same coordinates (x,y) represent the same portion of the object.

13 (previously amended): The method according to claim 11 wherein an upper limit B_{CT} of the CT interval is fixed at a gray level value on the Hounsfield scale, the gray

level corresponding to the highest value of the gray levels representing the soft tissues visualized on the scanner image.

14 (previously amended): The method according to claim 12 wherein an upper limit B_{CT} of the CT interval is fixed at a gray level value on the Hounsfield scale, the gray level corresponding to the highest value of the gray levels representing the soft tissues visualized on the scanner image.

15 (previously amended): The method according to claim 11 wherein a lower limit A_{CT} of the CT interval is fixed at a gray level value on the Hounsfield scale, the gray level corresponding to the lowest value of the gray levels representing soft tissues visualized on the scanner image.

16 (previously amended): The method according to claim 12 wherein a lower limit A_{CT} of the CT interval is fixed at a gray level value on the Hounsfield scale, the gray level corresponding to the lowest value of the gray levels representing soft tissues visualized on the scanner image.

17 (previously amended): The method according to claim 13 wherein a lower limit A_{CT} of the CT interval is fixed at a gray level value on the Hounsfield scale, the gray level corresponding to the lowest value of the gray levels representing soft tissues visualized on the scanner image.

18 (previously amended): The method according to claim 14 wherein a lower limit A_{CT} of the CT interval is fixed at a gray level value on the Hounsfield scale, the gray level corresponding to the lowest value of the gray levels representing soft tissues visualized on the scanner image.

19 (previously amended): The method according to claim 11 wherein another MR interval of gray levels in the MRI image is selected, whose upper limit B_{MR} corresponds to a gray level above which the pixels are white.

20 (previously amended): The method according to claim 19 wherein a lower limit A_{MR} of the MR interval corresponds to a gray level below which the pixels are black.

21 (previously amended): The method according to claim 11 wherein the digital processing comprises a linear interpolation.

22 (previously amended): The method according to claim 21 wherein the linear interpolation introduces an affine function integrating the value of a lower limit A_{CT} and an upper limit B_{CT} of the CT interval in the scanner image and the value of a lower limit A_{MR} and an upper limit B_{MR} of the MR interval in the MRI image.

23 (previously amended): The method according to claim 22 wherein a scanner pixel having a gray level V_{CT} lying within the CT interval, a gray level V_{MR} of the corresponding pixel in the MRI image is determined, a gray level in the CT interval is determined from the affine function and from the level V_{MR}; a gray level V_{OUT} of each pixel of the final image is obtained by the following algorithm:

- if $V_{CT} < A_{CT}$, then

1) $V_{OUT} = V_{CT}$,

- if $V_{CT} > B_{CT}$, then

2) $V_{OUT} = V_{CT}$,

- if $A_{CT} < V_{CT} < B_{CT}$, then

3) $V_{OUT} = A_{CT} + (B_{CT} - A_{CT})\,(V_{MR} - A_{MR})/(B_{MR} - A_{MR})$.

24 (previously amended): A system of fusion of first and second digital radiographic images comprising:

means for providing the first digital radiographic image by scanning;

means for providing the second digital radiographic image by MRI;

means for reading pixels of the scanner image, gray levels of which lie within upper and lower limits of a CT interval;

means for reading pixels of the MRI image, coordinates of which are identical to those of the pixels of the CT interval of the scanner image; and

means for calculation of a third image comprising the scanner image in which the pixels whose gray levels lie within the CT interval are replaced by pixels obtained by digital processing of the pixels of the same coordinates as the MRI image having corresponding MRI image gray levels in order to obtain an image making possible visualization of the soft tissues and bony tissues.

25 (previously amended): A method for combining first and second radiographic images of an object to provide a third image comprising:

providing the first image by CT scanning;

providing the second image by MR scanning;

recentering the first and second images by a two-dimensional rotation and/or translation so that the coordinates of the CT image and the MR image represent the same portion of the object;

fixing in the CT image gray scale levels corresponding to upper and lower limits of the CT interval;

fixing in the MR image gray levels corresponding to upper and lower limits of the MR interval;

combining the first and second images to provide the third image by linear interpolation by integration the respective lower and upper limits of the CT interval and the respective lower and upper limits of the MR image, the third image having gray levels which lie within the CT interval are replaced by pixels of the same coordinates in the MR image.

26 (canceled).

27 (canceled).

28 (currently amended): A computer program product comprising a computer a readable medium having computer readable program code means embodied in the medium, the computer readable program code means implementing the ~~steps of~~ method claim 11.

29 (currently amended): A computer program product comprising a computer a readable medium having computer readable program code means embodied in the medium, the computer readable program code means implementing the ~~steps of~~ method claim 25.

30 (currently amended): An article of manufacture for use with a computer system, the article of manufacture comprising a computer readable medium having computer readable program code means embodied in the medium, the program code means implementing the method ~~steps~~ of claim 11.

31 (currently amended): An article of manufacture for use with a computer system, the article of manufacture comprising a computer readable medium having computer readable program code means embodied in the medium, the program code means implementing the method ~~steps~~ of claim 25.

32 (currently amended): A program storage device readable by a machine tangibly embodying a program or instructions executable by the machine to perform the ~~steps of the~~ method of ~~according to~~ claim 11.

33 (currently amended): A program storage device readable by a machine tangibly embodying a program or instructions executable by the machine to perform the ~~steps of the~~ method of ~~according to~~ claim 25.